

REMARKS

Applicant hereby submits new corrected drawings as requested by the Examiner. The new corrected drawings leave off the captions, label Figs. 3A, 3B, and 3C, add lead lines to Figs. 3A, 3B, and Fig. 3C, and make corrections to Fig. 1 by deleting C_{ant} which was shown connected between the antenna and ground. Paragraph 51 of the published specification explains that “the antenna acts as an equivalent electric source in series with a capacitor represented in FIG. 1 as C_{ant} .” The showing in Fig. 1 did not show the capacitance in series with the antenna as the equivalent is shown in Fig. 2. Thus, deletion of the capacitance in Fig. 1 is consistent with the disclosure. The ground connection on the right side of Fig. 1 has been modified slightly to show that circuit ground is connected to earth ground. This also is consistent for the embodiment of Fig. 1 described.

Applicant has cancelled Claims 1-20 and submits a new set of Claims 21-40. These new claims address the objections to the claims raised by the Examiner.

The Examiner had rejected Claims 1, 3, 6, 7, 9, and 10 under 35 USC 102 (b) as anticipated by Van Schyndel et al. The remaining claims had been rejected under 35 USC 103 as unpatentable over Van Schyndel as the principal reference in view of various other references. Thus, Van Schyndel et al. is the principal reference for all rejections. Van Schyndel et al. measure current flow from their sensor. Therefore the detector must present a low impedance to the body detected. This is done by using a receive electrode potential near ground potential to help draw the field from the body and transmitter.

Van Schydel et al. do not function at lower frequencies, indicated as below about 10 kHz, because of poor signal to noise ratio. This is for at least two reasons, one, that the signal from the transmitter is effectively grounded by the receiver, and two, that the impedances of the body to the

receiver and electrode, and between transmitter and receiver, increase inversely to frequency, thus reducing the flow of current conducted through the body from the transmitter and receiver. Van Schyndel et al. measure current, and it becomes smaller at lower frequencies because the transmitter send out less field to the body, and because the currents are smaller because of the higher impedances at lower frequency. Hence, Van Schyndel et al. teach that the signal to noise ratio limits operation to frequencies above 10 kHz. This is much higher than the frequencies usable by the current invention which are indicated extending to below 50 Hz. Further, there is no discussion in Van Schyndel et al. about the details of their amplifier other than currents are amplified and converted to voltages. Their approach is clearly not a buffer type voltage amplifier as in the present invention and thus will fail to operate at low frequencies. There is no disclosure of the output voltage signal, a first stage buffer amplifier, an initial high pass filter and a subsequent low pass filter. Thus, Van Schyndel et al. cannot anticipate applicant's invention as currently claimed.

Applicant appreciates the telephone interview accorded him by the Examiner on July 22, 2005. During the interview, applicant discussed the differences between his invention and the Van Schyndel et al. device as set out above. Applicant also brought a newly published reference, Zank et al., Publication No. US 2005/0122118, published June 9, 2005, to the Examiner's attention. The Examiner has indicated in his Interview Summary that "Zank et al. will be considered (as it was just recently published) in the next action." During the interview, Applicant also pointed out differences between his device and that of Zank et al.

Zank et al. look much closer to a D.C. response from the sensor or antenna, and indicate that their frequencies extend down below one hertz. Also, the guard area 60 used by Zank et al. in conjunction with their sensor substantially eliminates any capacitive coupling between the body

being detected and the sensor. This capacitive coupling is the basis for detection in Applicant's device and is completely missing in Zank. Further, Zank et al. do not show a first stage buffer amplifier with an initial high pass filter since Zank et al. pass frequencies below one Hertz, and a subsequent low pass filter. Zank et al. do all filtering after the first stage amplifier. Thus, Zank et al. cannot anticipate applicant's invention as currently claimed.

Please note the enclosed Power of Attorney to the undersigned. A Request and payment for a one month extension has previously been submitted in this application. A Request for a two month extension of time in which to file this Amendment is submitted herewith. A check for the difference between the one month and two month extension is also submitted herewith. Please charge any additional fees due, or deposit any overpayments, to Deposit Account No. 20-0100 of the undersigned.

Dated this 25th day of August, 2005.

Respectfully submitted,



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